TEALS – Computer Science

We are proposing opening two sections of Introduction to Computer Science in SY 18.19. The courses would be housed at Cholla, Santa Rita and Sahuaro High Schools and would be a part of the TUSD Career and Technical Education department. The program would eventually grow to include AP Computer Science Principles and AP Computer Science A. TUSD would partner with TEALS to provide a co-teaching model, pairing an industry professional with the classroom teacher.

- **Introduction to Computer Science (YR1):** This class is built around the University of California's CS 10 course. It explores a variety of basic computational thinking and programming concepts through a project based learning environment. It is geared for the first-year computer science student, but would be marketed to Freshman and Sophomores. Curriculum is provided through TEALS.
- **AP Computer Science Principles (YR2):** This class would be taken the second year of the program by those students that have completed Introduction to Computer Science. It is built around fundamentals of computing, including problem solving, working with data, understanding the internet, cybersecurity and programming. Curriculum is provided through Code.org.
- **AP Computer Science A (YR3):** This class is built around the University of Washington's CSE 142 course. The class uses industry – standard Java programming language and presents topics that are built around problem solving. The daily lessons are based around group activities and projects. The curriculum is provided through TEALS.

Biotechnology

Students will use multiple modern molecular lab techniques such as micro pipetting, DNA extraction, DNA amplification and visualization of DNA on electrophoresis gels to investigate authentic research questions. Students will learn to prepare DNA for sequencing and how to interpret DNA sequences; learn how to grow and work with bacteria and other micro-organisms using sterile techniques, how to clone genes and to introduce genes into bacteria. Classes may collaborate with research lab to do authentic research-based projects. Students will acquire skills needed to pursue higher education or to enter industry workforce in careers related to Biotechnology.

Automotive Technology (Diesel)

Will provide students with job skills, develop good work ethic and accountability. Provide work based learning opportunities, teach proper and safe use of shop equipment, hand tools and diagnostic equipment.

Students will experience:

- Learn techniques and skills of basic automotive care including tire mounting, tire balancing, tire rotation, and oil changes, instruction in 4-stroke engine fundamentals.
- Demonstrate understanding of electrical functions in automotive applications.
- Repair, service and maintenance of diesel engines.
- Maintenance and repair of diesel systems in medium-heavy to heavy equipment.
- Use computers to troubleshoot and diagnose electrical systems, brakes, hydraulics

Dental Assisting

This program prepares students for further education in the dental assisting field. Students will experience an advanced clinical setting for humans. Learning to deliver quality patient care alongside dental professionals

	Computer Science	Bioscience	Automotive (Diesel)	Dental Asst.	Total
Remodel	$-	$20,000.00	$400,000.00	$400,000.00	$820,000.00
Capital	$-	$127,000.00	$50,000.00	$50,000.00	$227,000.00
Inst. Aides	$5,000.00	$20,000.00	$20,000.00	$20,000.00	$65,000.00
Technology	$30,000.00	$18,000.00	$30,000.00	$18,000.00	$96,000.00
FTE	$52,000.00	$52,000.00	$52,000.00	$52,000.00	$208,000.00
Total	**$87,000.00**	**$237,000.00**	**$552,000.00**	**$540,000.00**	**$1,416,000.00**

Funding Sources:

Carl Perkins Grant: 266.300.1000.6737.2655.20000.5049
State Priority Grant: 400.300.1000.6737.2655.20000.5049
JTED Allocation: 596.300.1000.6737.2655.20000.5049
(Budget strings will be broken down into more specific programs and categories upon identification)

The three funding sources available have specific strengths based on unique requirements regarding items or services that can be purchased. Projected funding has been allocated and will be assigned to the appropriate funding source.